



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,799	08/25/2006	Hirokazu Narita	040894-7495	1338

9629 7590 11/10/2008
MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

EXAMINER

COHEN, STEFANIE J

ART UNIT	PAPER NUMBER
----------	--------------

1793

MAIL DATE	DELIVERY MODE
-----------	---------------

11/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,799	Applicant(s) NARITA ET AL.	
	Examiner STEFANIE COHEN	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

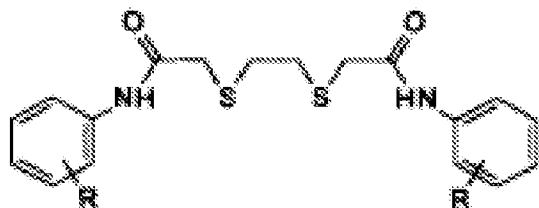
- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/25/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagermann (1999). Hagermann teaches a dithiadicarboxamide used to extract palladium with the following structure:



Where R can be a methyl group.

Although the Hagermann structure differs from the instant claims because one R group consists of an H, it would have been obvious to one of ordinary skill in the art at the time of the invention that the structure has the same core as the instant claims and therefore would have the same characteristics.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Singh (20030190274) in view of Hagermann (1999). Singh teaches a method for extracting palladium or other metal anion complexes that comprises contacting an aqueous solution with an organic solution including a diquatarnary amine, selectively binding the metal anion complex to the diquatarnary amine and then separating the organic solution from the aqueous solution wherein the diquatarnary amines having the selectively bound metal anions are concentrated in the organic solution. Although Singh teaches a method using diquatarnary amines to extract palladium or other metal anion complexes, Singh does not teach using sulfur- containing diamides as an extract. Singh teaches a dithiadicarboxamide used to extract palladium as applied to claim 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the Singh dithiadicarboxamide as taught by Singh in for the diquatarnary amine as taught by Hagermann because a sulfur containing diamide results in a more highly selective separation and a higher recovery efficiency of palladium. Singh further teaches the method is not limited to any particular pH of the aqueous solution, but metals are typically dissolved in acidic solutions.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Singh (20030190274) in view of Hagermann (1999) as applied to claim 2 and further in view of Alizadeh (2002). Although Singh in view of Hagermann teaches a method

Art Unit: 1793

for extracting palladium using sulfur- containing diamides, neither teaches a back extraction using HCl and thiourea. Alizadeh, table 1, teaches using HCl and thiourea as stripping agents on the recovery of palladium. It would have been obvious to one of ordinary skill in the art to use HCl and thiourea because these are conventional stripping agents that result in a high level recovery of palladium.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Singh (20030190274) in view of Hagermann (1999) in view of Alizadeh (2002) as applied to claim 3 and further in view of Farone et al (20020112569). Although Singh, Hagermann and Alizadeh teach a method for extracting palladium using sulfur- containing diamides and stripping with HCL and thiourea (second and third step), none of these references teach neutralizing a treated solution to separate the precious metals from other metals or using TBP to separate platinum from rhodium (first and forth step). Farone teaches a recovery of precious metals from low concentration sources. Farone, paragraph 12 of the PGPUB, teaches Neutralization of the liquid generates base metal precipitates as hydroxides. The precious metals remain in the liquid. The base metal precipitates are filtered. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the neutralization step taught by Farone as the first step in the method taught by Singh, Hagermann and Alizadeh because this ensures the precious metals will stay in solution while the impurities precipitate and not effect further extractions of the precious metals. This leads to a higher percentage of the palladium extracted. Although Singh, Hagermann,

Art Unit: 1793

Alizadeh and Farone teach a palladium extraction method, none of these references teach contacting TBP with an aqueous solution containing platinum and rhodium. Lea teaches a process for the extraction of precious metals from solutions. Lea teaches platinum is extracted from a solution using TBP with a chlorinated diluent. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the extraction step as taught by Lea into the method as taught by Singh, Hagermann, Alizadeh and Farone because the Lea step is an efficient way to recover platinum in a solution while the rhodium remains dissolved in the solution.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEFANIE COHEN whose telephone number is (571)270-5836. The examiner can normally be reached on Monday through Thursday 9:3am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 5712721234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stefanie Cohen

11/5/2008

SC

November 7, 2008

/Melvin Curtis Mayes/
Supervisory Patent Examiner, Art Unit 1793